

REMARKS

Claims 1-23 are pending. Claims 1, 2-4, 6, 8-11, 14-17, 19, 20, 22, and 23 have been amended. Claims 24 and 25 are new. No new matter has been added.

I. Section 102 Rejections

Claims 1, 2-5, 7, 8, 12 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,965,907 ("Huang"). The applicant respectfully traverses the rejections for at least the reasons stated below.

Amended claim 1 recites a device that includes substrates mounted vertically in a stacked structure. Each substrate has active components that emit light of a given wavelength through the stacked structure towards a viewing surface. The active components are arranged on the substrate in a non-overlapping pattern to allow non-overlapping vertical optical paths for the light emitted from the active components of different substrates.

Huang discloses a multi-substrate full color organic light emitting device. *See* column 2, lines 45-51. Color panels, which can emit different colors, are fabricated and stacked one on top of the other with a liquid crystal display upon the uppermost panel. *See* column 2, lines 59-67; FIGS. 2 and 3.

Huang does not disclose a plurality of substrates in a stacked structure where each substrate has active components arranged on the substrate in a non-overlapping pattern to allow non-overlapping vertical optical paths. Rather, in Huang the OLED panels are arranged in a vertically overlapping pattern so that the light emitted from one OLED panel overlaps with light from another OLED panel. In contrast, in claim 1, the "active components of different substrates are arranged in a non-overlapping pattern to allow non-overlapping vertical optical paths for the light emitted from active components of different substrates." The applicant's specification teaches a possible implementation of this non-overlapping pattern in Fig. 4 and page 11, lines 22-24 and page 12, lines 1-2.

The applicant submits that Huang does not anticipate claim 1, or claims 2-5, 7, 8, 12 and 13, which depend directly or indirectly from the applicant's claim 1. For at least this reason, the applicant asserts that claims 1, 2-5, 7, 8, 12 and 13 are in allowable form.

II. Section 103 Rejections

Claims 9, 10, 14-17, 20, 22 and 23 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Huang in view of U.S. Patent No. 6,117,529 ("Leising"). The applicant respectfully traverses the rejection for at least the reasons stated below.

All pending claims depend from claim 1 which, as amended, recites that the active components are arranged in a non-overlapping pattern to allow non-overlapping vertical optical paths for the light emitted from active components of different substrates.

The Examiner recognizes that Huang fails to disclose that the first conductive layers comprise a non-overlapping pattern to allow a clear optical path for the emitted light. The Examiner suggests that this element is suggested by Leising. The Examiner's proposed motivation for the combination is that one of ordinary skill in the art at the time the invention was made would have been motivated to dispose the first conductive layers in a non-overlapping pattern, in order to improve the separation between individual color pixel areas, which improves sharpness of the emitted light, as well as prevent short circuits between neighboring electrodes.

An object of the Leising invention is to improve the separation between the individual color pixel areas of an electroluminescence color display screen. *See* column 6, lines 53-56. However, Leising does not teach achieving this object by separating pixels with a substrate layer, but rather by patterning the base electrode, electroluminescence layer and top electrode. *See* column 9, lines 21-27. A "base electrode layer [is] arranged in a stripe pattern, followed by an organic electroluminescence layer having parallel stripes perpendicular to the base electrode stripes, and a top electrode layer also having a stripe pattern perpendicular to the base electrode stripes." *See* column 9, lines 23-27. The resulting device has pixels adjacent to one another in a single layer. *See* FIG. 2 of Leising. Therefore, Leising describes a patterned conductive layer, but with only a single layer of active components. When the active components are arranged side by side on a single layer, there is generally no overlap of components.

However, the physical separation of individual pixel areas in a single layer on a single substrate does not teach or suggest that the components in different substrates be arranged to allow non-overlapping vertical optical paths for the light emitted from the active components of the different substrates. Even if Huang and Leising were to be combined, the resulting combination would result in a device with multiple substrates, each substrate having separated, side-by-side pixels. However, the pixels of one substrate of the device would still overlap the pixels of another substrate.

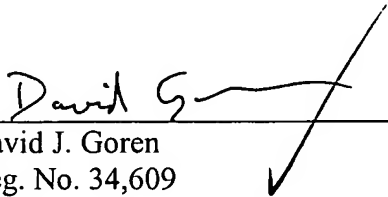
Since both Huang and Leising fail to teach a device in which active components are arranged on each substrate of a plurality of substrates in a non-overlapping pattern to allow non-overlapping vertical optical paths for the light emitted from the active components of different substrates, the combination of Huang and Leising cannot render claim 1 obvious. Consequently, the Examiner has not made a *prima facie* showing of obviousness. For at least this reason, the applicant submits that claims 9, 10, 14-17, 20, 22 and 23 are in allowable form.

Attached is a marked-up version of the changes being made by the current amendment.

Applicant asks that all claims be allowed. Enclosed is a \$36.00 check for excess claim fees. Please apply any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: 2/13/03



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Version with markings to show changes made

In the claims:

Claims 1, 2-4, 6, 8-11, 14-17, 19, 20, 22, and 23 have been amended as follows:

1. (Amended) A device comprising:
a plurality of substrates mounted vertically in a stacked structure[, each substrate having];
and
active components arranged on each substrate of the plurality of substrates, the active components of each substrate emitting light of a given wavelength through the stacked structure towards a viewing surface, wherein the active components of different substrates are arranged in a non-overlapping pattern to allow non-overlapping vertical optical paths for the light emitted from the active components of different substrates.
2. (Amended) The device of claim 1 wherein the substrates comprise[s] a thickness of less than 0.5 mm.
3. (Amended) The device of claim 1 wherein the substrates [material] comprise[s] glass or plastic.
4. (Amended) The device of claim [1] 24 wherein said plurality of substrates are mounted in an order [whereby] placing the active components emitting light with the shortest wavelength [is emitted] closest to the viewing surface.
- 6 (Amended) The device of claim 5 wherein the surface of each substrate is punctured and staggered bringing emitting levels of the active components of different substrates to similar heights.

8. (Amended) The device of claim 7 wherein the active components comprise one or more organic layers sandwiched between first and second conductive layers, forming an organic light emitting diode device.

9. (Amended) The device of claim 8 wherein the organic layers on said plurality of substrates comprise a non-overlapping pattern, [to allow a clear optical path for the emitted light.]

10. (Amended) The device of claim 9 wherein the non-overlapping pattern of the organic layers comprises strips.

11. (Amended) The device of claim 8 wherein [the thickness of] each of the first and second conductive layers is about 0.02 -1 μm thick.

14. (Amended) The device of claim 12 wherein the first conductive layer[s] on said plurality of substrates comprises a non-overlapping pattern, [to allow a clear optical path for the emitted light.]

15. (Amended) The device of claim 14 wherein the pattern of the first conductive layer[s] comprises strips.

16. (Amended) The device of claim 14 wherein the organic layers on said plurality of substrates comprise a non-overlapping pattern, [to allow a clear optical path for the emitted light.]

17. (Amended) The device of claim 16 wherein the non-overlapping pattern of the organic layers comprises strips.

19. (Amended) The device of claim 18 wherein the active components comprise one or more organic layers sandwiched between first and second conductive layers forming an organic light emitting diode device.

20. (Amended) The device of claim 19 wherein the organic layers on said plurality of substrates comprise a non-overlapping pattern. [to allow a clear optical path for the emitted light.]

22. (Amended) The device of claim 21 wherein the first conductive layer[s] on said plurality of substrates comprises a non-overlapping pattern. [to allow a clear optical path for the emitted light.]

23. (Amended) The device of claim 22 wherein the organic layers on said plurality of substrates comprise a non-overlapping pattern. [to allow a clear optical path for the emitted light.]

Claims 24 and 25 have been added as follows:

24. (New) The device of claim 1 wherein the active components of different substrates emit light of different wavelengths.

25. (New) A device comprising:
a first substrate;
a first plurality of active components on the first substrate, emitting light of a first wavelength;
a second substrate mounted on the first substrate;
a second plurality of active components on the second substrate, emitting light of a second wavelength, wherein the first and second plurality of active components are arranged in a non-overlapping pattern to allow non-overlapping vertical optical paths for the light emitted from the first and second pluralities of active components.